



Missouri Department of Natural Resources
Black River - WBID 2769, 2784
Missouri Department of Conservation Fish Tissue Data, 2006

Org	WBID	Site Name	Year	Species	# in Sample	Preparation	Length, in.	Weight, lbs.	Hg, mg/kg
MDC	2784	Black River just below Clearwater dam	2006	walleye	5	fillet	17.2	1.7	0.5446
MDC	2784	Black River just below Clearwater dam	2006	walleye	5	fillet	16.8	1.8	0.57518
MDC	2784	Black River just below Clearwater dam	2006	walleye	5	fillet	23.2	5.5	0.45197
MDC	2784	Black River just below Clearwater dam	2006	walleye	5	fillet	18.2	2.3	0.33516
MDC	2784	Black River just below Clearwater dam	2006	walleye	5	fillet	26.1	6.5	0.75067
MDC	2784	Black River just below Clearwater dam	2006	walleye	3	fillet	23.6	6.3	0.50391
Average:									0.527

Org	WBID	Site Name	Year	Species	# in Sample	Preparation	Length, in.	Weight, lbs.	Hg, mg/kg
EPA/MDNR	2769	Black River at Coon Island CA	2006	buffalo	3	fillet	16.7	2.5	0.55

The EPA guideline for mercury in fish tissue is 0.3 mg/kg ("Water Quality Criterion for Protection of Human Health: Methylmercury", EPA-823-R-01-001, Jan. 2001). The guidance document states that this is a concentration that "should not be exceeded" based on a total consumption of 17.5 grams of fish per person per day. The 0.3 mg/kg criterion is also based on the assumption that the fish diet is composed of a mixture of fish from different trophic levels. This document also encourages states to consider other relevant data while adopting or modifying the 0.3 mg/kg criterion value, such as regional differences in species consumed and the amount of fish consumed.

McKee, 2002 ("Sport-Caught Fish Consumption in Missouri--2002 Mail Survey", Dept. of Conservation, Columbia, Mo.), found that Missourians that eat sport-caught fish do eat a mixture of species from different trophic levels. This study found that the most commonly consumed sport-caught fish were crappie, catfish, bluegill and other sunfish, bass (largemouth, smallmouth and spotted), trout and walleye. This survey also found the median level of fish consumption was 50 grams per day, or 2.8 times the amount used to develop EPA's criterion value of 0.3 mg/kg. If the information on consumption rates in Missouri is accurate, a criterion value significantly less than 0.3 mg/kg would be necessary to protect fish consumers from mercury poisoning.

The mean level of mercury in fish fillets in segment 2784 of the Black River is 0.527 mg/kg. This value exceeds the federal criterion value of 0.3 mg/kg. Additionally, the fish consumption rate for Missourians that eat sport-caught fish is much greater than the fish consumption estimate used for the federal criterion. Therefore, this water is judged to be **impaired** by mercury in fish tissue.

The only recent fish fillet sample analyzed for mercury from segment 2769 of the Black River showed a level of 0.55 mg/kg. This value exceeds the federal criterion of 0.3 mg/kg. However, there is **insufficient data** with which to perform an assessment. Therefore, it is recommended that this segment of the Black River be prioritized for further monitoring of mercury in fish tissue.

The Missouri Department of Health and Senior Services has issued a general advisory for mercury in fish tissue, stating that members of sensitive populations (pregnant women, women of childbearing age, nursing mothers, and children under 13 years old) should limit their consumption of all fish caught in Missouri

to one meal per week, due to the widespread presence of mercury. It also states that those same populations should limit their consumption of largemouth, smallmouth or spotted bass more than 12 inches in length to one meal per month. This advisory does not affect those who are not members of the sensitive populations.

Missouri Department of Natural Resources' Water Protection Program, 573-751-1300, www.dnr.mo.gov
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